CHAPTER 14
Mathematics and Dance Bibliography

We often get requests from students and researchers looking for information on mathematics and dance. Unfortunately, not much has been published on these subjects, and so we hope that this working bibliography may help point interested people to helpful sources.

Some items are included even though we do not currently have complete bibliographic information for them, and some of the sources we have only seen referenced in other works. We would greatly appreciate any additional references or missing information; please send these to schafferkarl@fhda.edu. These references were compiled during 1997-2001, and included visits to the Lincoln Center Library for the Performing Arts in New York City, and the Laban Center library, also in New York. The Lincoln Library classifications are included, where known, to simplify access to those references.

For those unfamiliar with dance and dance notation, a number of the references relate to the work of Rudolf Laban, and his followers. Laban developed the most commonly used dance notation, Labanotation, based on a very scientific analysis of human movement.

At the end we will soon include our dances which include significant mathematical ideas or inspiration. We would appreciate any information on dances or performances readers know about with strong connections to mathematics.

References


Clements, Douglas H. and Michael T. Battista. Geometry and Spatial Reasoning, in Handbook of Research on Mathematics Teaching and Learning,


Dell, Cecily. A Primer for Movement Description: Using Effori-Shape and Supplementary Concepts. New York: Dance Notation bureau Press, 1977. Presents the system of effort-shape, a scientific system based on Rudolf Laban’s work, which is used to analyze dance and movement.


Hall-Marriot, Natalie Louise (nataliem@mosaix.com.au), and Don Herbison-Evans (don@socs.uts.edu.au). “A Computer Interpreter of Classical Ballet Terminology.” Imprint, Technical Report TR264, Basser Department of Computer Science, University of Sydney, Australia. Description of a project to develop a classical ballet interpreter to turn the written language of ballet into computer animations of the ballet.


Humphrey, Doris. *The Art of Making Dances*. New York Grove Press, 1959. Contains the proclamation that “symmetry is boring!” By this she seems to mean mirror symmetry. Humphrey was one of the seminal figures in Modern Dance and this book is a compendium of her craft.


de Laban, Juana. Dance Index, Vol. 5, No. 4, 1946, referenced in Thie, gives a description of a number of dance notations from ancient to present.


The groundbreaking study of the development of spatial thinking in children.


Slocum, Jerry, and Jack Bottermans, *The Book of Ingenious & Diabolical Puzzles,* New York: Random House, Times Books, 1994. Contains a short history of tangrams, and. This and other books by Slocum and Bottermans describe a variety of mathematical puzzles which may be made into entertaining dance props.


Thie, Joseph A. *Rhythm and Dance Mathematics.* Minneapolis: published by Joseph Thie, 1964 (once available from the Dance Mart, Box 48, Brooklyn, NY 11229.) Applies the mathematical technique known as correlation analysis to sequences of dance steps. Includes some analysis of dance and mathematics with a larger scope. This book is available in the Lincoln Center Library and in the Dance Collection of the Birmingham Public Library, in Birmingham, Alabama.


Wechsler, Robert. “Symmetry in Dance,” *Contact Quarterly*, vol. 15, #3, Fall 1990, pp 29-33, Northhampton, MA. Examines various ways to use symmetry in choreography.

Wechsler, Robert A. *Analysis of ‘Reversals’ in the Cunningham Dance Technique. Issues Concerning the Perception of Symmetry in Dance,* in Lincoln Center Library collection. Contact: robert@palindrome.de

Guys Dancing About Math—He and Stern, a. dance teacher at Weber State University in. Ogden, Utah, have been choreographing and. performing dan ce pieces based on mathemat-. ical ideas. As founding members of the Dr. Schaffer. and Mr. Stern Dance Ensemble, they and. their company have performed for hun-. dreds of thousands of people, including at.Â  dents to join a deep and mathematical. conversation. Â€œThe connections between mathematics. and dance are the heart of the matter,â€ says. Schaffer. Â€œI often look at the mathematical as. The Dancing Wu LiMasters. An Overview of the New Physics. Gary Zukav.Â More Than Both The End of Science. Notes Bibliography Index Particle Table. 191 212. 255 281.Â However, it is important to remember that mathematics and English are both languages. Languages are useful tools for conveying information, but if we try to communicate experiences with them, they simply do not work. All a lan-guage can do is talk about an experience. Ramanujan Mathematical Society Little Mathematical Treasures INMO IMO Math Olympiad A Gateway to M Mathematical Problems and Puzzles from the Polish Mathematical Olympiads. 379 PagesÂ·2010Â·20.96 MBÂ·48,282 Downloads. Mathematical Olympiads Adventures in Problem Solving Mathematical Marvels by Shailesh Shirali Universities Press RMO INMO IMO Mathematics Olympiads. 328 PagesÂ·2019Â·88.91 MBÂ·39,282 DownloadsÂ·New! IMO Mathematics Olympiads Adventures in Problem Solving Mathematical Marvels by Shailesh Shirali Advanced book on Mathematics Olympiad. 807 PagesÂ·2007Â·5.34 MBÂ·98,074 Downloads.,